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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,036	10/01/2004	Yong Scog Kim	3449-0389PUS1	4661

2292 7590 11/13/2006

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EXAMINER	
HINES, ANNE M	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/510,036	KIM ET AL.	
	Examiner	Art Unit	
	Anne M. Hines	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) *1-5 and 9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-8 and 10-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The amendment filed on August 18, 2006, has been entered and acknowledged by the Examiner.

Claims 6-8 and 10-13 are pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jang et al. (KR 2000-0014545) (of record) in view of Wang et al. (EP 0893813 A2) (of record).

Regarding claims 6-8 and 11, Jang teaches a composition for manufacturing barrier ribs for a Plasma Display Panel (PDP) comprising 100 parts by weight of glass powder 20 to 40 parts by weight of solvent; 2 to 12 parts by weight of binder including water soluble components and solvent soluble components together; 3 to 18 parts by weight of plasticizer; and 0.5 to 2 parts by weight of dispersion agent (Paragraph 28; Table 1; Table 2; Paragraph 30). Jang fails to disclose wherein the glass powder is mixed with a ceramic powder with a volume ratio in the range of 50:50 to 95:5, and is

silent regarding the materials of the solvent, plasticizer, organic vehicle (binder), and dispersion agent.

In the same field of endeavor of compositions for the manufacture of barrier ribs of PDPs, Wang teaches a composition comprising a glass powder and ceramic powder mixture, an organic binder, plasticizer, and dispersion agent wherein: the glass powder and ceramic powder mixture has a volume ratio in the range of 50:50 to 95:5 (Page 11, line 46 to Page 12, line 10; Page 6, lines 5-6; Page 5, lines 48-50; Page 6, lines 16-17) in order to provide a lower defect rate partition wall (Page 4, lines 46-47). Wang further teaches wherein the glass powder and ceramic powder mixture is PbO-B_2O_3-SiO_2 powder (Page 11, line 46 to Page 12, line 10) and Al_2O_3 powder (Page 6, lines 5-6) of which a volume ratio is in the range of 50:50 to 95:5 (Page 5, lines 48-50; Page 6, lines 16-17) and wherein the average particle size of the powders is between 0.2 and 5 μm (Page 6, lines 9-12); the organic solvent is methyl ethyl ketone (MEK) solvent (Page 8, lines 25-29; Page 10, lines 42-57); the organic binder, including water soluble components and solvent soluble components together (Page 11, Table 1—see acrylate and methacrylate polymers for white layer); the plasticizer is dibutyl phthalate (DBP) plasticizer (Page 7, line 58; Page 11, Table 1—see plasticizer for white layer); and the dispersion agent is acrylic acid dispersion agent (Page 7, lines 6-7). Wang further teaches wherein the volume ratio of polyvinyl acetate water soluble binder to methyl methacrylate solvent soluble binder is in the range of 20:1 to 1:20 (Page 7, lines 5-40); the average molecular weights of the materials of the binders are inherently within the claimed range since molecular weight is a material property. Note that the Examiner

considers the following equivalencies inherent: ethylene-based unsaturated carboxylic acid is acrylic acid; a homopolymer of vinyl acetate is polyvinyl acetate; and C1 alkyl methacrylate is methyl methacrylate. Wang teaches the suitability of these materials for the composition of a barrier rib for a PDP.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the composition of the barrier rib of Jang to have the materials disclosed by Wang for the various components of the barrier rib composition of Jang and to have a mixture of glass powder and ceramic powder instead of glass powder only, in order ensure fewer defects in the barrier ribs and to choose from one of the materials disclosed by Wang, since Wang teaches the suitability of using these materials for the composition of a barrier rib of a PDP and it has been held to be within the general skill of an artisan to select a known material on the basis of the intended use. See MPEP 2144.07.

Regarding claim 10, Jang further discloses a plasma display panel using the barrier ribs manufactured according to the method defined in claim 6 (Abstract).

Regarding claims 12 and 13, Jang teaches wherein the additive is a dispersion agent or a surfactant (Paragraph 30), but fails to teach wherein the composition contains both a dispersion agent and a surfactant, and wherein the surfactant comprises 0.3 parts by weight of the composition. However, one of ordinary skill in the art would reasonably contemplate having both the dispersion agent and the surfactant

disclosed by Jang as the additive of Jang since dispersion agents prevent clumping of the powder components of the composition and surfactants lower the surface tension of liquids and allow easier spreading of a composition—which is desirable for the manufacture of barrier ribs of a PDP. Furthermore, one of ordinary skill in the art would reasonably contemplate adding the surfactant to the composition in an effective amount, such as 0.3 parts by weight, in order to gain the benefits of the surfactant in the composition. Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of Jang to have the additive of the composition include both the dispersion agent and 0.3 parts by weight of the surfactant in order to provide effective amounts of both additives and gain the benefits of the dispersion agent and surfactant including preventing clumping of the powder components of the composition and lowering the surface tension of liquid components to allow easier spreading of a composition—both of which are desirable for the manufacture of barrier ribs of a PDP.

Response to Arguments

Applicant's arguments with respect to claims 6-8 and 10-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne M. Hines whose telephone number is (571) 272-2285. The examiner can normally be reached on Monday through Friday from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anne M Hines
Patent Examiner
Art Unit 2879

11/2/06

MARICELI SANTIAGO
PRIMARY EXAMINER